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Warnings and product liability

Bert Niemeijer

Sanne Pape Warnings and product liability. Lessons learned from cognitive psychology and ergonomics, The Hague, Eleven International Publishing 2011, 499 pages, ISBN 978-94-90947-42-2.

Product warnings are meant to prevent damage resulting from defective products. By holding producers liable for damages caused by a defect in their products, product liability law can contribute to prevention. Within European product liability law the European Product Liability Directive (EPLD, 85/374/EEC) determines the liability criteria. In cases of claims by consumers who suffered injuries during the use of a product, civil courts determine whether a product is defective on the basis of these criteria. One of the possible defects is the absence or inadequacy of a warning.

The idea that warnings can be effective in preventing damage is based on assumptions about how people behave and use products. The way in which courts and litigants evaluate product warning messages is also based on assumptions. For example, courts consider the size of a warning as a relevant factor for the adequacy of a warning. In her book, Pape examines the validity of these (implicit) assumptions by using insights from cognitive psychology and ergonomics. Her aim is to contribute to the improvement of product liability law in three ways: by examining whether the assumptions of European product liability law are correct, by explaining how European product liability law deals with a warning issue and by providing support for tools and recommendations for courts and litigants.

The book has a clear and straightforward structure. The introduction is followed by three parts. First a legal analysis of product warnings. Second an examination of product warnings from a behavioural perspective. The third and central part of the book combines both perspectives and formulates lessons learned. After reviewing her book according to this structure, I will end with my evaluation.

Legal analysis of product warnings

The analysis starts with an exploration of the Dutch fault-based liability in tort (for claims that fall outside the scope of the Directive) and continues with a discussion of the strict Dutch liability regime, which embodies the implementation of the ELPD. The focus is on defining the defectiveness standard under the Directive's liability regime, especially in relation to product warnings. An inventory of Dutch case law and a number of European cases results in a list of factors for determining whether a product is defective. Examples of factors which can make a product defective due to the absence of a warning are the nature of the product

hazard, the probability that product danger will emerge and general knowledge about the risk. Factors which can make a product defective because of the inadequacy of a warning are: the severity of the potential harm; the prominence, legibility and completeness of the information and its location. An important conclusion is that the presence of an adequate warning is not always sufficient: 'Warnings cannot be used to cover up a design flaw of a product.'

Product warnings from a behavioural perspective

Warnings apparently play a significant role in determining product liability. Hence, it is relevant how humans interact with warnings in everyday life. Especially cognitive psychology and ergonomics provide important insights about crucial issues with warnings: functions of warnings, the process of effective warning, the factors that influence the processing of warnings and design implications.

Most models of the warning process are based on insights from cognitive psychology, in particular communication theory. Pape builds upon the 'Communication Human Information Processing ("C-HIP") model' in particular. This model provides a framework for showing the successive stages of the flow of information, from a source via a channel to a receiver. The receiver in turn has to notice a warning, then has to read it and finally has to comply with it. In order to produce compliant behaviour, the receiver of the information has to go through each of these various stages successfully. There is a whole variety of factors influencing this process, such as language skills, reading abilities, the level of knowledge, attitudes and beliefs, receiver characteristics (like age, risk perception or motivation). Also characteristics of the warning itself, like signal words, colour, warning symbols and explicit information, are highly influential. Finally there are several relevant environmental factors. Some of these factors are only influential in one specific stage; others are influential in more than one stage.

Pape also reviews the relatively small amount of research on which hazards need a warning and the implications for the design of effective warnings. This leads her to ergonomic literature, in particular the 'hazard control hierarchy model'. There is firm empirical justification for this model. It prioritises hazard control methods from most effective to least effective. It turns out that the most effective method to eliminate a hazard is by changing the design of a product. However, this is not always possible, for example, design changes can conflict with the intended use of the product. The subsequent possibility is to guard users against contact with the hazard; an example is the so-called dead man's switch on speedboats. If designing out and guarding are not possible or practical, a final control method to deal with safety problems is to use warnings. This leads to the conclusion that warnings should be viewed as a last-resort measure, not as a substitute for other hazard-control methods.

Lessons learned from cognitive psychology and ergonomics

The great challenge for Pape is to realise her ambition to apply the lessons learned from cognitive psychology and ergonomics to product liability law. She structures the discussion by answering five questions. What is a product warning? Why warn? What risks need no warning? When should consumers be warned in relation to design or guarding solutions? How should consumers be warned?

What is the legal meaning of the term 'product warning'? The defectiveness test under the Directive contains three types of product defects that may influence liability: design defects, manufacturing defects and product information defects. There are various forms of product information, the most important being those related to marketing defects and warning defects. Pape recommends legally defining warnings widely as safety communications, meant to inform people about product hazards and to give guidance to (injured) parties and to producers. To this end warning messages should generally contain three types of information: about the type of hazard, about the consequences of the hazard and about safety instructions.

Why warn? Pape concludes that the main rationale for obliging producers to include warnings with their products is to prevent or reduce the number of accidents. This implies the assumption that warnings can indeed have such a positive effect. Even though not every study reports such effects and (by far) not all people comply with warnings, this assumption is confirmed by the overall findings of the warning studies. Imposing the obligation to warn is justified because it can, in principle, change behaviour and offer protection.

For warnings to induce safe behaviour, the warning information must meet a sequence of conditions. The C-HIP model describes human behavioural compliance with a warning as the end result of a sequence of information processing stages which must all be successfully completed. These stages are: attention switch; attention maintenance; comprehension and memory; attitudes and beliefs; motivation. Pape considers these stages as requirements for effective warnings. She calls them sub-goals that need to be achieved in order to reach the goal of accident prevention. They can also be useful in determining whether warnings should be considered 'legally adequate'. To this end Pape 'translates' them into the following legal requirements: the warning must be salient, legible, and comprehensible; must concur with beliefs and attitudes and motivate recipients.

Because protection against hazards partially depends on the behaviour of consumers, European product liability law recognises that consumers also have a duty to protect themselves. This is reflected in the shift of responsibility for safety from producers to consumers in cases where warnings are adequate. To determine what an adequate warning actually is, European courts place much emphasis on the comprehensibility of a warning. However, the above model shows that there are more required steps to reach safe behaviour. Pape argues

that the final two stages (warning concurs with beliefs and attitudes; warning motivates recipients) are currently not (sufficiently) considered by law.

What risks need no warning? Pape seeks to avoid increasing liability for not providing a product warning. Identifying risks for which it is unnecessary to warn can contribute to that aim. Limits to warnings for these types of risks may reduce unnecessary costs and the 'overusing' of warnings by producers. From the legal literature and case law, Pape derives five categories of risks that need no warning: risks that have an insignificant size, obvious risks, generally known risks, risks that were present but not known at the time the product was put into circulation and risks arising from unreasonable expectations related to use. For each type of risk Pape examines the role it (should) play in European legislation and courts.

When should consumers be warned instead of opting for other design solutions? The hazard control hierarchy model provides prevention methods in order of preference: design out, guard and warn. On the basis of this model, Pape argues that warnings should be viewed as a last-resort measure, primarily meant to stimulate producers to improve the safety of a product by design. In connection with this she asks attention for the defect claim that centres on the producer's misuse of a warning. This is the case when, although a warning has been provided, the product can still be found defective because a more effective design measure was possible.

How should consumers be warned? At the moment European product liability law considers warnings legally adequate insofar as they provide relevant information to product users in a noticeable, legible and understandable way. However, the warning literature shows that a comprehensible warning as such is not enough to induce safe behaviour. Receivers of a warning will also have to be persuaded by the warning and motivated by it to act in a safe way. Pape proposes using the potential of the design of a warning to sufficiently influence behaviour as a yardstick. This general test can be fleshed out further by interpreting the stages of information processing as requirements for warning adequacy. Inspired by the C-HIP model Pape proposes four adequacy requirements for a product warning: it should be sufficiently salient, legible, comprehensible, memorable and persuasive. In this way, the test synchronises the law with the psychological model of the warning process.

The number of relevant factors raises the question of how they should be balanced. To solve this problem, Pape proposes distinguishing three important sets of factors within the test: factors that relate to the level of risk involved, factors indicating the inadequacy of the given warning and factors that relate to the availability of a better alternative design of the warning. The chapter ends with a toolkit filled with a number of special design principles. Courts and litigants can use these to evaluate the adequacy of a warning.

Evaluation

Pape has written a thick book consisting of 500 pages and more than 1200 footnotes. But readers of all these pages will not be disappointed. They will get a good overview of the legal state of affairs concerning warnings in product liability law, will take a deep plunge into cognitive psychology and will be rewarded with a careful implementation of this knowledge in legal thinking. Pape is very precise. She explains elaborately and could possibly have written a shorter book without losing essential substance. However, because of its clear structure, the book is still accessible.

Pape is an accurate analyst. She carefully defines the scope of her research, excluding inter alia questions concerning the relevance of the precautionary principle, aftersales warnings and possible contributions of other legal regimes (e.g. public law) or regulatory policy about the safety of products. She also pays attention to shortcomings in the research she employs, for example, there are serious gaps in warning research, such as the lack of research on the influence of environmental factors and of various attitudes and beliefs about warning effectiveness. Probably the most serious problem she mentions is that only a few studies have measured actual behavioural compliance. However, Pape is not very explicit about her own method. How did she select and analyse the substantial warning literature? What are her grounds for choosing one (theoretical) model over another? What are the consequences and/or shortcomings resulting from these choices? How exactly does she 'translate' the lessons from behavioural research into legal recommendations? How is the quality of this 'translation' judged?

Pape examines the validity of the (implicit) assumptions of product liability law by using insights from cognitive psychology and ergonomics. Research questions like this are typical for what has recently become known as 'civiology'.¹ In this 'multidimensional' approach, lawyers lean on the results of social and behavioural sciences in order to analyse private law. What are the more or less implicit assumptions of human behaviour in private law? What are its behavioural effects? What is the explanatory value of social and behavioural sciences? How can this knowledge be used to improve the law? Pape's dissertation can be read as a proof of what the civiology programme can accomplish in a concrete study, and of what its results and promises are.

Does she realise these goals? Without doubt the answer is the affirmative. She identifies assumptions ('the more salient a warning the more effective'), provides explanations ('why are warnings viewed as a last resort measure?') and 'translates' results of behavioural research creatively into recommendations. Her work is a good example of the fruitfulness of multidimensional research on private law. Both the legal and the behavioural parts of her research are careful and thorough. The way she uses the insights from cognitive psychology and ergonomics to

1 Pape's promotor, Van Boom, is one of the leading initiators of Dutch 'civiology' (with Giesen and Verheij). See Van Boom et al. 2008 and Van Boom et al. 2012.

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develop tools and recommendations for product liability law is creative and convincing.

However, there remains a crucial question: what is the empirical basis for the preventive effect of warnings? Pape admits there is a lack of empirical evidence, but concludes nevertheless that warnings *can* have a preventive effect. This is correct but at the same time unsatisfactory. The available research is not very convincing. Most of the warning studies are experimental, carried out under laboratory conditions. There are inconsistencies and gaps in the findings. Although behavioural compliance is the most important stage in the warning model, relatively few studies have measured actual behavioural compliance. The available research shows there is a systematic decline in the number of people who notice a warning, then read it and finally comply with it. This means that, as far as warnings affect consumer behaviour at all, the effect is probably very small. Furthermore we do not know what the effect of liability law is on the warning behaviour of producers. All in all, this means that the empirical validity of the assumption that liability law contributes to prevention and reduction of accidents is doubtful.²

This conclusion does not diminish Pape's work. Her goal was to use social science to analyse, evaluate and improve private law. Her book proves that she has succeeded in this high ambition.

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2 Cf. Polinsky & Shavell 2010.